

NATURAL RESOURCES CONSERVATION SERVICE
Wyoming
CONSTRUCTION SPECIFICATIONS
FOR
IRRIGATION WATER CONVEYANCE
RIGID GATED PIPE

(Owner/Operator)

(Project/Title)

GENERAL

Gated pipe systems shall be installed in accordance with a design and plan approved by the responsible technician. Details of construction shown in the design and plan but not included here shall be considered as a part of this specification. Construction activities shall be in accordance with applicable OSHA regulations.

Table 1 - Minimum Wall Thickness
for Aluminum Gated Pipe

Tube Diameter (inch)	Minimum Wall Thickness (inch)
6, 8 & 10	0.050
12	0.058

MAINLINES

The mainline materials and installation shall meet the requirements of the respective Idaho-NRCS Construction Specification for Irrigation Pipelines for the pipe material(s) specified.

Plastic irrigation pipe shall meet the requirements of one of the PVC materials as specified in ASTM D1784 and shown in Table 2. The plastic compound shall contain an ultra-violet stabilizer that will protect against solar degradation for a minimum of 5 years. The pipe shall meet the requirements of ASTM D 2241, Polyvinyl Chloride (PVC) Plastic Pipe (SDR-PR), as shown in sections pertaining to dimensions and tolerances, flattening, extrusion, quality, conditioning, test conditions, and sampling.

GATED PIPELINES

All pipe shall be inspected prior to installation. Any damage pipe shall be repaired or replaced. Pipe shall be the diameter, length and of the material specified on the drawings.

MATERIALS

Aluminum pipe shall conform to the chemical composition criteria in ASTM B 241, Specifications for Aluminum-Alloy Seamless pipe and Seamless Extruded Tube; ASTM B313, Specification for Aluminum-Alloy Round Welded Tubes; and ASTM B 210, Specifications for Aluminum-Alloy Drawn Seamless Tubes. The minimum wall thickness for aluminum gated pipe is listed in Table 1.

Table 2 - Material Specifications for
Plastic Gated Pipe

Code Classification	Designation
12454-B	PVC 1120
12454-C	PVC 1220
13333-D	PVC 2116
13333-D	PVC 2112
13333-D	PVC 2110

The minimum wall thickness for 6 through 12-inch diameter plastic gated pipe is 0.120 inches. The average outside diameter of the pipe shall equal the nominal pipe diameter. The minimum working pressure for this pipe without gates shall be 22 psi or 50 feet of head.

Plastic pipe shall be marked with nominal pipe size (for example 10 in), applicable material designation code (for example PVC 1120) and manufacture's name or trademark.

JOINTS AND CONNECTIONS

All joints and connections shall be capable of withstanding the rated pressure of the pipe without leakage and shall leave the inside of the pipe free of any obstructions that would reduce the pipe capacity below design requirements.

Gaskets shall be according to pipe manufacture's standard design dimensions and tolerances. The gasket shall be a continuous elastomeric ring and shall make the joint flexible yet water tight.

INSTALLATION

The ground surface along the route of the gated pipe shall be smoothed and shaped to provide contact along the entire pipe length or the pipe shall be placed on saddles as specified on the drawings.

Appurtenances shall be installed at locations and be of the type as specified on the drawings.

When orifice control reducers are specified they shall be constructed of 3/16-inch minimum thick commercial grade metal, fiberglass, plastic or other materials approved by the Technician.

Butterfly valves and gates shall be installed per manufacture recommendations.

Water control structures shall be of the type and located as shown on the drawings.

TESTING

The system shall be given an operational test. This test shall consist of filling the pipe with water, taking care to bleed of any air in the pipe, and operating the pipe at design working pressure. All of the system components shall operate without difficulty. Leaks shall be fixed and defective materials shall be replaced.

BASIS FOR ACCEPTANCE

Pipe stamped with applicable ASTM requirements of this specification and the manufacturer's name may be accepted without a material certification. A material certification is required for unmarked pipe. The certification will show applicable ASTM, pressure class, manufacturer, pipe size, wall thickness, etc.

ADDITIONAL SPECIFICATIONS